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APPLICATION FOR UNITED STATES PATENT

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**Title: SUPPORT AND STORAGE SYSTEM FOR AN ADHESIVE
DISPENSING UNIT**

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SPECIFICATION

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SUPPORT AND STORAGE SYSTEM FOR AN ADHESIVE DISPENSING UNIT

Field of the Invention

[0001] The present invention pertains generally to adhesive dispensing systems, and more particularly to a support and storage unit for an adhesive dispenser.

Background of the Invention

[0002] Thermoplastic adhesives, otherwise known as "hot melt" adhesives have been widely used in industry for various applications. Hot melt adhesive dispensing systems generally include one or more dispensing guns, heated hoses connected to the guns, and an adhesive dispenser or melter for melting and supplying heated liquid adhesive to the guns through the heated hoses. Conventional adhesive dispensers generally include a tank, heater, pump, manifold, and a controller. Examples of such dispensing units or melters are the ProBlue™ melter units available from Nordson Corporation of Westlake, Ohio.

[0003] In use, conventional adhesive dispensing units may require servicing, such as the routine replacement of filters used to remove debris, char, contaminates, etc., from the melted liquid material. In addition, operators may have need to refer to user manuals or operating guides in the form of notebooks, pamphlets, or even in the form of data or instructions stored on computer storage media such as compact discs or DVD's. If these materials are not conveniently located at or near the dispensing unit, the time required to locate and retrieve these materials results in unnecessary downtime wherein the unit is not utilized to its fullest potential.

[0004] There is thus a need for a storage system for maintaining service parts, manuals, and other materials necessary for the operation of an adhesive dispensing system in close proximity to a dispenser unit.

Summary of the Invention

[0005] The present invention provides a support and storage system for an adhesive dispenser. The support more specifically comprises an apparatus for mounting an adhesive dispenser including a base configured to receive an adhesive dispenser on an upper surface thereof. Various features are provided in the base to facilitate the storage and use of tools, parts, and other items used by an operator of the dispenser or related components.

[0006] In one embodiment, the support includes a bay formed through a sidewall of the base and sized to receive reference materials, such as books, notebooks, or manuals therein for ready access by users. The support further includes a drawer, a slide-out shelf, and a swing-out plate each coupled to the base for movement between closed positions wherein the drawer, shelf, and

plate are received within the base, and open positions wherein the drawer, shelf, and plate extend outwardly of the sidewalls of the base. A conduit formed through the base facilitates routing power cables to the adhesive dispenser.

[0007] In another aspect, the support includes a coupling member configured to selectively releasably secure the dispenser to the top surface of the base. In one embodiment, the coupling member includes first and second dispenser engaging members disposed on opposite side edges of the base.

[0008] In another aspect of the invention, an apparatus for dispensing liquid material comprises an adhesive dispenser and a support for the adhesive dispenser, as described above.

[0009] These and other features, objects and advantages of the invention will become more readily apparent to those of ordinary skill in the art upon review of the following detailed description, taken in conjunction with the accompanying drawings.

Brief Description of the Drawings

[0010] The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate embodiments of the invention and, together with a general description of the invention given above, and the detailed description given below, serve to explain the invention.

[0011] FIG. 1 is an exploded perspective view of an adhesive dispensing system including an exemplary dispenser support according to the present invention; and

[0012] FIG. 2 is a perspective view of another embodiment of a support, similar to FIG. 1, but illustrating a different dispenser engaging structure.

Detailed Description of the Preferred Embodiments

[0013] Referring to FIGS. 1 and 2, an exemplary support 10 for an adhesive dispenser 12 comprises a base 14 defined by sidewalls 16 and top surface 18.

The base 14 includes various features for storing materials useful for operating the adhesive dispenser 12. In the embodiment shown, the base 14 includes a storage bay 20 formed through a sidewall 16 of the base 14. Advantageously, the bay 20 is sized to receive books, reference manuals, tools or notebooks.

The base 14 further includes a drawer 22 slidably coupled to the base 14, through a sidewall 16. The drawer 22 is movable between a closed position, as depicted in FIG. 1, and an open position, as depicted in FIG. 2. In an exemplary embodiment, the drawer 22 is configured to accommodate service parts for the dispenser 12, such as replacement filters or other parts used by the dispenser 12. The drawer 22 can also hold service parts for other components in the hot melt adhesive dispensing system, such as nozzles, filters, etc. In another embodiment, the drawer 22 is sized to accommodate computer storage media, such as compact discs or DVD's containing stored data or instructions relating to the operation of the dispenser 12.

[0014] Base 14 further includes a slide-out shelf 24, slidably coupled to the base 14 through a sidewall 16 for movement between a closed position, depicted in FIG. 1, and an open position, depicted in FIG. 2. Advantageously, the shelf 24 may be utilized as a work surface for supporting user manuals or guides, tools or parts for the dispenser unit, or as a convenient support for other articles needed by the operator.

[0015] A swing-out plate 26 is pivotally coupled to the base 14 through a sidewall 16 for movement between a closed position, depicted in FIG. 1, and an open position depicted in FIG. 2. The swing-out plate 26 may be secured in the closed position by a spring-loaded latch (not shown) so that the plate 26 is maintained in a closed position, flush with the sidewall 16 of the base 14. The latch can be actuated by an operator to facilitate moving the plate 26 to the open position, as needed. Advantageously, the swing-out plate 26 may be utilized as a work surface for supporting various items which may be needed by an operator, or it may be used to retain a reference card containing data or instructions related to the operation of the dispenser 12.

The base 14 is configured to attach to and support an adhesive dispenser 12 on its top surface 18. In an exemplary embodiment, the base 14 further includes a coupling member proximate the top surface 18 for removably securing the adhesive dispenser 12 to the top surface 18. In the embodiments shown, the coupling member comprises first adhesive dispenser engaging members 30a, 30b and second dispenser engaging members 32a, 32b disposed on opposite side edges of the top surface 18 of the base 14. In the embodiment depicted in FIG. 1, the first and second dispenser engaging members 30a, 30b, 32a, 32b are provided on a flat plate 34 that can be secured to the top surface 18, for example, by fasteners (not shown), such as threaded fasteners, installed through holes 36, 38 formed in the plate 34 and top surface 18 of base 14, respectively. Plate 34 is similar to the adapter plate shown and described in co-pending U.S. Application Serial No. 10/256,884 filed on September 27, 2002, and the disclosure of which is hereby fully incorporated by reference herein. As more fully discussed in U.S. Application

Serial No. 10/256,884, engaging members 30a, 30b are configured to slidably engage the adhesive dispenser 12, and engaging members 32a, 32b are configured to bias the adhesive dispenser 12 into engagement with engaging members 30a, 30b. Engaging members 30a, 30b, 32a, 32b each generally comprises a flange projecting outwardly from the top planar surface of plate 34 (or top surface 18). Engaging members 30a, 30b each includes a horizontal leg extending substantially parallel to the top surface of plate 34 (or top surface 18) and capture a portion of the dispenser 12. As shown in Fig. 2, the first and second dispenser engaging members 30a, 30b, 32a, 32b may be formed directly into the top surface 18 of base 14.

[0016] In the exemplary embodiments shown, the first dispenser engaging members 30a, 30b are configured to slidably engage an adhesive dispenser 12, for example, through corresponding slots (not shown) formed in the dispenser 12. The second dispenser engaging members 32a, 32b are configured to bias the adhesive dispenser 12 into engagement with the first dispenser engaging members 30a, 30b. While the coupling member has been shown and described herein as comprising first and second dispenser engaging members 30a, 30b, 32a, 32b, it will be recognized that various other types of coupling members may be utilized to releasably secure the dispenser unit 12 to the base 14. Because the dispenser unit may be placed directly upon the support 10, base 14 can further include an opening 40 formed through the base 14 and terminating at the top surface 18 to provide a convenient passage for routing power cables to the dispenser unit 12. Optionally, base 14 could also include or additionally serve as a junction box with an electrical conduit entering at a sidewall 16 or bottom (not shown), for example, and

electrical connections could be made directly between base 14 and dispenser unit 12, such as via a plug-in arrangement.

[0017] Advantageously, the support 10 of the present invention is configured to provide a convenient base 14 upon which an adhesive dispenser 12 may be placed, and facilitates the location of various materials, such as service parts, user manuals, or other items used in operating the dispenser 12, for convenient access by an operator.

[0018] While the present invention has been illustrated by the description of an embodiment thereof, and while the embodiment has been described in considerable detail, it is not intended to restrict or in any way limit the scope of the appended claims to such detail. Additional advantages and modifications will readily appear to those skilled in the art. The invention in its broader aspects is therefore not limited to the specific details, representative apparatus and method and illustrative examples shown and described. Accordingly, departures may be made from such details without departing from the scope or spirit of the general inventive concept.

WHAT IS CLAIMED IS: